

# TORQUE LIMITERS

*Ball Detent Style*

**211CDW**

**221CDW**

**231CDW**

**241CDW**

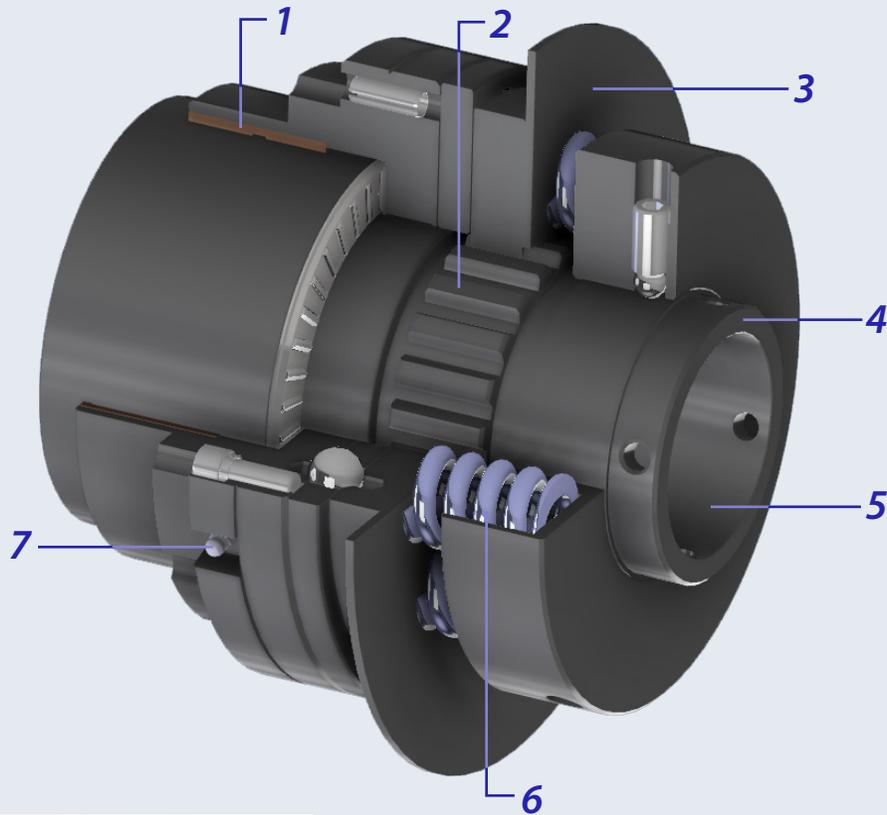
THE ULTIMATE PROTECTION



CARLSON-DIMOND & WRIGHT, INC.

# CDWdrives Torque Limiters

*Protect your equipment from costly downtime!*



## Features and Benefits

1. Bronze-bushed adapter with tapped bolt circle holes for easy mounting of a sprocket or timing pulley – popular sprocket sizes are available pre-bored and drilled to match *CDWdrives* series torque limiters, multi-strand and hardened tooth sprockets also available – no additional machining or processing of drive media is required in order to configure a working torque limiter assembly
2. All models Include an “Over Adjustment” safety feature – torque adjusting nut will “bottom out” before unit will lock-up - no calibration spacers required
3. Thick limit switch plate – reduces the possibility of bending
4. Hub extension with barring holes to hold hub against rotation while adjusting torque
5. Thru-bore hub configuration available allows for long shaft mounting, or mounting between bearings (standard on models 211CDW and 221CDW, option on models 231CDW and 241CDW)
6. Furnished with a full set of coil springs – every unit will cover minimum to maximum torque range as shipped – threaded adjusting nut eliminates need to change springs – simply remove springs as required for lower torque range
7. Single external grease fitting for easy lubrication of internal thrust bearing and bronze adapter bushing

Setscrews and mounting holes are fine thread for maximum holding power (models 211CDW and 221CDW)

Large setscrews in hub (three on models 211CDW and 221CDW, two on models 231CDW and 241CDW)

Coupling style assembly available for mounting between two shafts

# The CDWdrives Difference



- There are thousands of *CDWdrives* torque limiters operating successfully in the field
- Our Torque Limiters serve customers in many industries
- We stock four popular sizes
- Standard units and configurations ship the next day
- We can build and ship custom configurations quickly
- *CDWdrives* employs experienced engineers and technicians
- We know torque limiters, limit switch kits and their applications

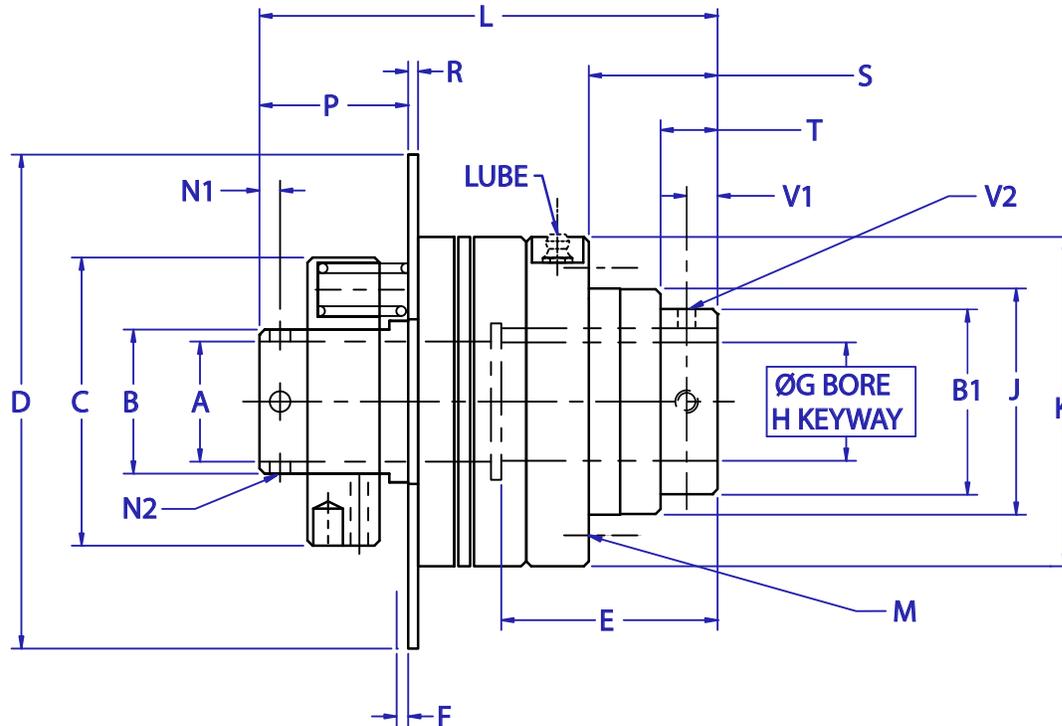
Technical Details	Model 211CDW	Model 221CDW	Model 231CDW	Model 241CDW
Torque capacity (in.-lb.)	3000	6000	12000	23000
Max speed (RPM)	200	200	500	500
Reset type	Automatic, random position multi-seat (resets every 27 degrees of rotation)	Automatic, random position multi-seat (resets every 24 degrees of rotation)	Automatic, single position (resets every 720 degrees of rotation)	Automatic, single position (resets every 720 degrees of rotation)
Reset direction	Forward & Reverse	Forward & Reverse	Forward & Reverse	Forward & Reverse
Qty coil springs	10	9	10 inner/outer	10 inner/outer
Stock bore	1-7/16" dia. bore, with KW, 3 SS	1-15/16" dia. bore, with KW, 3 SS	Blank (unbored)	Blank (unbored)
Max bore (thru shaft mounting, full depth keyway)	1-7/16" *	2"	2-1/4"	2-7/8"
Max bore (blind mounting, full depth keyway)	N/A	N/A	2-7/16"	3-1/8"
Max bore (blind mounting, shallow depth keyway)	N/A	N/A	2-1/2"	3-1/2"
Minimum Size RC Sprocket	40A30, 50A24, 60A21, 80A17, 100A14	50A30, 60A25, 80A20, 100A16	50A30, 60A26, 80A20, 100A17, 120A15	80A27, 100A23, 120A20, 140A17, 160A16
Coupling style available	Yes	Yes	Yes	Yes
Unit weight without bushing or sprocket (lb.)	9.5	18.0	38.0	83.0

\* 1-1/2" dia. bore thru shaft mounting is available with shallow depth keyway

Min./Max. Torque Range (in. - lb.)				
No. of Springs	Model 211CDW	Model 221CDW	Model 231CDW	Model 241CDW
2 Springs	N/A	N/A	***	1700/3700
3 Springs	***	700/2000	400/2500	***
4 Springs	600/1200	***	600/3300	3300/7300
5 Springs	900/1300	***	700/4200	***
6 Springs	1000/1500	1400/4000	800/5000	4800/11000
8 Springs	1200/2400	***	1100/6600	6400/14700
9 Springs	***	2100/6000	***	***
10 Springs	1500/3000	N/A	1400/8200	8000/18300
10 Inner/Outer Springs	N/A	N/A	2000/12000	10200/23000

\*\*\* Spring configuration not recommended, consult *CDWdrives* for application assistance

# Torque Limiter 211CDW and 221CDW



Dimensional Details Dimensions (inches)		Model	
		211CDW	221CDW
Clearance "thru" bore	A	1.46	2.06
Hub diameter (adj nut end)	B	1.75	2.50
Hub dia. (finish bore end)	B1	2.25	2.88
Adj nut diameter	C	3.50	5.00
Limit switch plate diameter	D	6.00	7.00
Finish bore depth	E	2.63	3.63
LS plate movement	F	0.14	0.17
Stock bore (+.001/-.000)	G	1-7/16"	1-15/16"
Keyway	H	3/8" X 3/16"	1/2" X 1/4"
Pilot diameter	J	2.749/2.747	3.499/3.497
Adapter diameter	K	4.00	5.00
Overall length	L	5.56	6.42
Bolt circle	M	(6) 1/4-28 tapped holes equally spaced on 3-1/4" dia. bolt circle	(6) 3/8-24 tapped holes equally spaced on 4-1/8" dia. bolt circle
Barring hole position	N1	0.25	0.28
Barring hole diameter	N2	(4) 0.25	(4) 0.30
LS plate position (engaged)	P	1.81	1.98
LS plate thickness	R	0.12	0.12
Adapter projection	S	1.56	1.63
Hub projection	T	0.69	0.75
Setscrew position	V1	0.37	0.37
Setscrew size	V2	(1) 3/8-24 over KW	(1) 3/8-24 over KW
		(2) 3/8-24 +/-90 deg from KW	(2) 1/2-20 +/-90 deg from KW

Available Sleeve Bushings			
Model 211CDW		Model 221CDW	
5/8" Bore w/ Key	45C206-G	7/8" Bore w/ Key	45A346-A
3/4" Bore w/ Key	45C206-H	1" Bore w/ Key	45A346-B
20MM Bore w/ Key	45C206-A	1-1/8" Bore w/ Key	45A346-C
7/8" Bore w/ Key	45C206-B	1-3/16" Bore w/ Key	45A346-D
1" Bore w/ Step Key	45C206-C	1-1/4" Bore w/ Key	45A346-E
1-1/8" Bore w/ Step Key	45C206-D	1-3/8" Bore w/ Key	45A346-J
1-3/16" Bore w/ Step Key	45C206-E	1-7/16" Bore w/ Key	45A346-F
1-1/4" Bore w/ Step Key	45C206-F	1-1/2" Bore w/ Key	45A346-G
		1-3/4" Bore w/ Key	45A346-H

## CDWdrives Sleeve Bushings

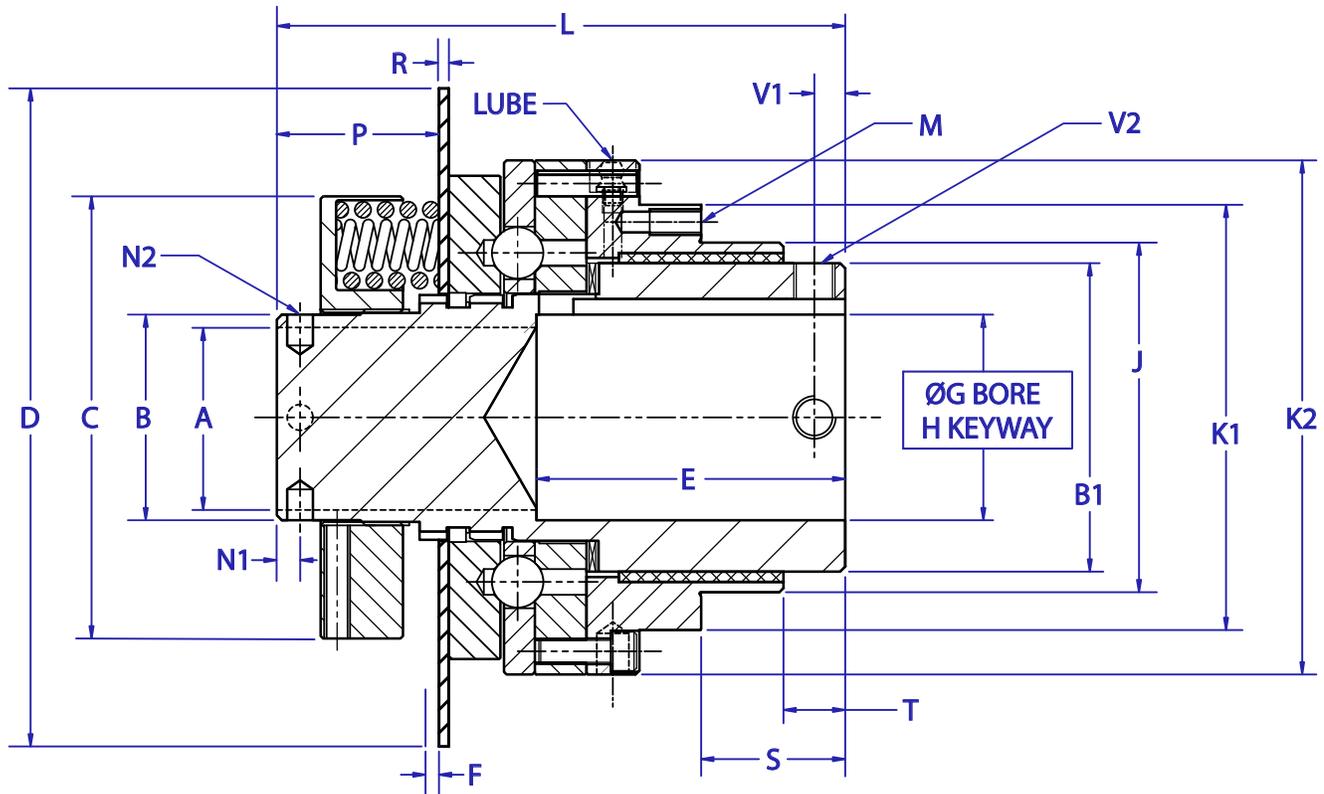
Sleeve Bushings are available for models 211CDW and 221CDW (See table above)

Adapting the torque limiter for alternate shaft sizes is easy

CDWdrives sleeve bushings stocked in a variety of sizes are designed such that they are trapped in the assembly and include the appropriate key



# Torque Limiter 231CDW and 241CDW

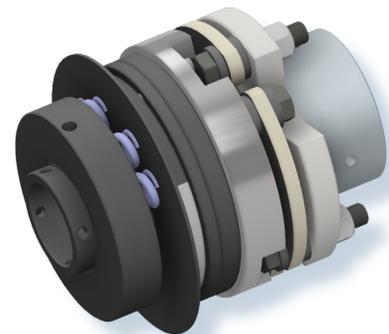


Dimensional Details Dimensions (inches)		Model	
		231CDW	241CDW
Clearance "thru" bore	A	Consult CDWdrives	Consult CDWdrives
Hub diameter (adj nut end)	B	2.50	3.75
Hub dia. (finish bore end)	B1	3.75	5.72
Adj nut diameter	C	5.38	7.50
Limit switch plate diameter	D	8.00	10.00
Finish bore depth	E	3.75	4.00
LS plate movement	F	0.21	0.25
Stock bore	G	Machined Per Order	Machined Per Order
Keyway	H	Machined Per Order	Machined Per Order
Pilot diameter	J	4.250/4.248	6.340/6.337
Adapter step diameter	K1	5.17	7.50
Adapter outer diameter	K2	6.25	8.50
Overall length	L	6.90	8.50
Bolt circle	M	(10) 5/16-18 tapped holes equally spaced on 4-3/4" dia. bolt circle	(12) 3/8-16 tapped holes equally spaced on 6-15/16" dia. bolt circle
Barring hole position	N1	0.28	0.34
Barring hole diameter	N2	(4) 0.31	(4) 0.38
LS plate position (engaged)	P	1.97	2.82
LS plate thickness	R	0.12	0.12
Adapter projection	S	1.75	2.13
Hub projection	T	0.75	0.68
Setscrew position	V1	0.38	0.38
Setscrew size	V2	Varies by bore size	Varies by bore size

## QD Bushing Style Hub



QD Bushing Style Hubs are available for models 231CDW and 241CDW (Consult CDWdrives)



Coupling style assemblies are available for all four models - allows for angular, parallel and axial misalignment when there is a requirement for installation of the torque limiter between two shafts

CAD drawings for all models are available upon request at no additional charge



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## Additional CDWdrives Products

### Limit Switch Kits

Other configurations and limit switch brands are available - consult CDWdrives



Microswitch Style



Allen Bradley Style

### Couplings



### Aquabearings



## DRIVE SYSTEMS INTEGRATORS

Your Authorized CDWdrives Distributor:

In accordance with CDWdrives established policy of continuous product improvement, the specifications and technical data contained in this document are subject to change without prior notice. Rotating equipment must be provided with suitable guarding or injury may result